California's Energy Leadership

California Public Utilities Commission

The California Public Utilities Commission has helped make California a national and international leader on energy initiatives and policies designed to benefit consumers, the environment, and the economy.

An Energy Plan for California

The California Public Utilities Commission (CPUC) supports the quality of life of Californians by ensuring reliable energy and protecting the environment.

This is made possible through the guidance of an Energy Action Plan adopted by the CPUC and its sister energy agencies.

The Energy Action Plan, created in 2003 and subsequently updated in 2005 and 2008 by the CPUC and California Energy Commission, lays out a single, unified approach to meeting California's energy needs by focusing on energy efficiency, demand response, and renewable energy.

Building on the Energy Action Plan, the California Legislature, CPUC, and other state agencies have taken a number of steps to put California on the map as a state that's committed to innovative and groundbreaking energy initiatives and policies.

California is leading the way in . . .

Ensuring Reliable Power for the State

Utilities are required to create long-term energy plans for CPUC review and approval. The plans ensure that utilities maintain a set amount of energy above what they estimate they will need to serve their customers (called a reserve margin). On the consumer side, the CPUC's low income programs help to ensure consumers have access to essential services. The CARE program offers a discount on energy bills and the Low Income Energy Efficiency program provides free weatherization services.

Protecting the Environment

California leads the nation in aggressively battling climate change with policies to reduce greenhouse gases and increase energy efficiency and renewable energy. Assembly Bill 32 (the Global Warming Solutions Act) requires that statewide greenhouse gas emissions be reduced to 1990 levels by 2020. Cleaner electricity production is an essential factor in reducing greenhouse gas emissions and the CPUC has been engaged in proactive climate change work since 2004, including:

- Requiring the state's investor-owned utilities to account for the future financial risk associated with greenhouse gas emissions in evaluating new long-term resource investments. This Greenhouse Gas Adder, expressed in dollars per ton of CO_2, is used by utilities in evaluating long-term energy procurement.

- Creating a first-of-its-kind Greenhouse Gas Emissions Performance Standard (Senate Bill 1368), which requires that all new long-term energy generation contracts by utilities be with power plants that have emissions no greater than a combined cycle natural gas turbine plant.

- Working with the California Energy Commission to provide guidance to the California Air Resources Board (CARB) on how to reduce greenhouse gas emissions from the electricity and natural gas sectors. CARB will implement the Global Warming Solutions Act.

- Membership in the California Climate Action Registry and California's Climate Action Team.

California Institute for Climate Solutions

On April 10, 2008, the CPUC created the California Institute for Climate Solutions (CICS), taking a bold and innovative approach to expanding California's leadership in battling climate change. The CICS will facilitate research, deployment, and commercialization of technological solutions and policies to reduce greenhouse gas emissions in the electric and natural gas sectors.

innovative

clean

Groundbreaking Energy Efficiency Goals

Building on California's proud history in energy efficiency, in 2005 the CPUC created the most ambitious energy efficiency and conservation campaign in the history of the utility industry in the United States. This reaffirmed that cost-effective energy efficiency is the state's first line of defense against power shortages, as outlined in the Energy Action Plan.

Energy efficiency plans for 2004-2013 eliminate the need for 10 new power plants, eliminate 9 million tons of CO_2 emissions annually (equal to taking approximately 1.8 million cars off the road), and yield $10 billion in net savings to consumers. The state's innovative energy efficiency plans include:

- Creating a system of incentives and penalties to drive investor-owned utilities above and beyond California's aggressive energy savings goals.
- Utilizing Big, Bold Energy Efficiency Strategies to make energy efficiency an integral part of "business as usual" in California. These strategies include creating a single, statewide, long-term (through 2020) energy efficiency strategic plan that requires that all new residential construction in California be zero net energy by 2020; all new commercial construction will follow by 2030.
- Implementing Governor Schwarzenegger's Green Building Initiative, which calls for public buildings to be 20 percent more energy efficient by 2015 and encourages the private sector to do the same.
- Identifying water-related energy use savings potential. By saving water or delivering and treating it more efficiently, it is possible to produce significant energy savings.
- Keeping per capita electricity use low by utilizing building codes and standards, utility programs, and decoupling, which allows utilities to retain expected earnings even as energy efficiency programs reduce sales. California's electricity use has remained relatively flat over the past 30 years while the nation's use has risen by 50 percent.

Harnessing the Power of the Sun Through the California Solar Initiative

California has a goal to install 3,000 megawatts of new customer solar projects by 2016 under the California Solar Initiative, moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers. In 2005, the CPUC began developing the California Solar Initiative under Governor Schwarzenegger's Executive Order and later in 2006 under state law (Senate Bill 1). California already has over 280 megawatts installed at 32,000 solar installations, and the California Solar Initiative builds on that success. The California Solar Initiative:

- Utilizes a statewide budget of $3.3 billion over 10 years; $50 million is allocated to grants for research, development, and deployment.
- Offers cash incentives on solar systems, which when combined with federal tax incentives, can cover up to 50 percent of the total cost of a solar system.
- Offers performance-based incentives, which reward the best functioning solar installations, while also encouraging energy efficiency upgrades.

The state's one-stop information center for solar information is www.GoSolarCalifornia.ca.gov, which offers a consumer-friendly calculator and an online application tool that illustrate rebate levels and projected return on investment for the purchase of solar systems, making it easier to apply for incentives.

Supporting Emerging Technologies

The CPUC approved $11 million per year of funding for emerging energy efficiency technologies for 2006-2008. The CPUC also created the California Clean Energy Fund (CalCEF), which makes investments in clean energy technologies. In April 2006, the nation's first academic center dedicated to energy efficiency was established at the University of California, Davis, funded by a $1 million challenge grant from the CalCEF.

renewable

incentives

Lowering Electricity Peaks Through Demand Response

Demand response programs allow consumers and businesses to reduce the use of their electricity during times of high energy demand. Demand response enhances electric system reliability, reduces power purchases and individual consumer costs, and protects the environment. An example of demand response is the use of Smart Meters. Smart Meters replace conventional customer electric meters, giving consumers new access to information and greater control over their energy use and bills.

The CPUC has approved of a suite of demand response programs for utilities that have an aggregated impact of 2,700 megawatts, which is equivalent to approximately five large power plants. The CPUC's demand response plans include:

- Moderating peak-energy demand to avoid building or investing in power plants. While energy use in the state is growing at 1.25 percent per year, peak demand is growing even faster, at 1.35 percent annually.
- Developing time-differentiated rates that reflect the true cost of electricity. Customers on these rates will have the opportunity to lower their bills by reducing their electricity use during the most expensive time of the day when the least efficient and most-polluting power plants would otherwise be operating.
- Utilizing Smart Meters to empower consumers to make informed decisions about their electrical use.

The Loading Order

The state's Energy Action Plan adopts a "loading order" of preferred ways to meet the energy needs of California's growing population. Energy efficiency and demand response are first, followed by renewable energy on the supply side.

Aggressive Renewable Power Targets

Established in 2002 under Senate Bill 1078 and accelerated in 2006 under Senate Bill 107, California's Renewables Portfolio Standard program is one of the most ambitious renewable energy programs in the country. It requires utilities to obobtain 20 percent of their power from renewable sources by 2010 and will add 6,750 megawatts of new renewable power and reduce CO_2 emissions by 18.7 million metric tons (equal to taking approximately 2.8 million cars off the road).

Utilities are making progress toward attaining the 2010 renewable energy target and the CPUC is now identifying the steps necessary to meet even higher goals beyond 2010, such as Governor Schwarzenegger's goal that 33 percent of electricity sales come from renewable sources by 2020.

For consumers, the CPUC's Self-Generation Incentive Program offers subsidies for qualifying energy systems, while the California Solar Initiative offers cash incentives for installing solar systems.

Solar Water Heating and Efficiency Act

The Solar Water Heating and Efficiency Act of 2007 (Assembly Bill 1470) targets natural gas savings, the primary energy source used for water heating in California. The CPUC will evaluate data from its current pilot program for solar water heating in the San Diego area. If the pilot is favorable, the CPUC expects to create a new program of incentives for the installation of at least 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Ensuring Adequate Electricity Transmission

Inadequate transmission infrastructure is detrimental to providing reliable electricity and also remains one of the largest barriers to meeting California's ambitious renewable energy goals. The CPUC evaluates whether utilities can build new transmission lines in the state or upgrade existing lines. The CPUC works to ensure adequate electricity transmission by:

- Authorizing over 10,000 megawatts of transmission expansion projects since 2001.
- Coordinating with the California Independent System Operator on the need for additional transmission upgrades and new projects.
- Initiating the formation of the California Renewable Energy Transmission Initiative (RETI). RETI will assess all competitive renewable energy zones in California and neighboring states that can provide significant electricity to California consumers by 2020 or earlier.
- Participating in the California Energy Commission's efforts to designate energy corridors on state-owned lands in California.

Tehachapi Renewable Transmission Project

The Tehachapi Renewable Transmission Project will provide 4,500 megawatts of capacity from the wind-rich Tehachapi area. In May 2008, the CPUC approved one of the largest wind energy contracts in the United States - the Alta Windpower Project in the Tehachapi area.

Reliable Natural Gas Supplies

To ensure reliable, long-term natural gas supplies to California at reasonable rates, the state must reduce or moderate demand, improve reliability of supplies, and ensure adequate infrastructure.

To support these goals the CPUC has:

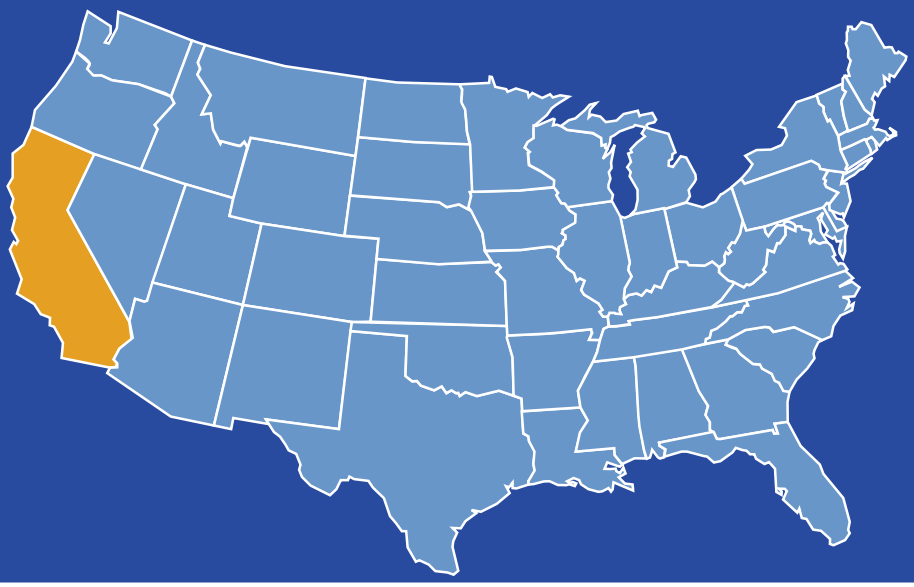
- Authorized deliveries of natural gas through the Otay Mesa delivery point to reduce the likelihood of curtailments in southern California.
- Created a natural gas transmission framework in northern and southern California to allow shippers of natural gas greater certainty and flexibility in moving supplies.
- Expanded the capacity of natural gas storage facilities.
- Established strict natural gas quality standards, which gives liquefied natural gas providers more certainty to begin developing new supplies.
- Examined whether and how utilities should enter into contracts for natural gas from liquefied natural gas suppliers on the West Coast.

Reducing Natural Gas Demand

The CPUC's energy efficiency and renewable energy policies reduce consumption of electricity from natural gas-fired power plants, thereby reducing natural gas demand. Energy efficiency also helps to lower consumer bills.

Hedging Guards Against High Prices

The CPUC has authorized natural gas hedging plans for utilities to reduce the likelihood that residential and small commercial natural gas consumers will pay very high natural gas prices in the winter.



Influencing Regional, National, and International Energy Policies

The CPUC helps to represent California at the regional and national levels in order to serve as a model and influence policymaking. The CPUC's participation in policy discussions at the Federal Energy Regulatory Commission, the United States Department of Energy, and the California Independent System Operator ensures that California's interests are shared and preserved. The CPUC's efforts have:

- Influenced federal policy in areas such as clean energy by demonstrating the success of our programs, thereby making it easier for similar policies to be adopted on a national level.
- Strengthened and encouraged competition in California's wholesale energy market.
- Supported transmission projects that connect California's energy grid to renewable energy sources.
- Maintained the reliability of the nation's bulk-power system.

On an international level, the CPUC maintains ongoing communication with regulators, scholars, and industry representatives from other countries in order to share the knowledge California has gained through its energy leadership.

Read more about these and other efforts underway at the CPUC at www.cpuc.ca.gov.

Energy Plan for California

Lowering Energy Use

Protecting the Environment

Go Solar California

Building on a Proud History

Aggressive Renewable Goals

Ensuring Energy Supply and Transmission

Groundbreaking Energy Efficiency Goals

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For more information contact the CPUC's News and Public Information Office at (415) 703-1366 or news@cpuc.ca.gov.

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